ABSTRACT OF THE DISCLOSURE

A method and apparatus for resolving floating point and integer ambiguities in a satellite position navigation system is disclosed. A rover station is periodically positioned at unknown locations and has a satellite receiver capable of receiving the navigation signals. By calculating relative position coordinates between a base station in a known location and the rover station, and by calculating other position parameters relative to the satellite position, a geometric constraint based on a measured elevation angle between the rover and base station can be incorporated into data computations and processing to help resolve carrier phase ambiguities. The elevation angle is measured by transmitting multiple laser beams to an optical sensor on the rover station. This technique results in greater precision in determining the location of the rover.